ABSTRACT

Being a riverine country, the road transportation system is vitally important to the economic and social welfare of Bangladesh. Therefore, it must be so maintained and continually improved with due consideration for safety, minimizing accident hazards and risks. However, terrible losses of lives and injuries with consequent property damages resulting from road traffic accidents have now emerged as serious issues in Bangladesh affecting the community personally, socially and economically. The road safety situation is very severe by international standard. An overview of the prevailing accident problem characteristics and some road safety priorities that should be addressed with due urgency are briefly discussed in the paper. Some recent advances in promoting road safety activities including holding of international conference, national workshops and the observance of the UN first global road safety week are also discussed. The way forward to activate and strengthen efforts towards greater safety is highlighted as well.

1 INTRODUCTION

Road transportation is the major mode of transport in Bangladesh. Over 70 percent of passenger travel and much of our goods movement occur over the highways. There is no doubt that road transportation is vitally important to our economic and social welfare and must be so maintained and continually improved with due consideration for safety, minimizing accident hazards and risks. However, each year thousands of people are killed and injured on our roads. These terrible losses of lives and injuries affect us personally, socially and economically. The Government of Bangladesh is greatly concerned about the growing road safety problems and is committed to fight against such trauma on our roads. As a part of Government’s significant initiatives numerous pragmatic programs have been taken to ensure safer transportation. Efforts are underway for integrating different organizations both at public and private sectors, civil societies, communities and individuals towards identifying their
specific roles and responsibilities and thereby developing effective measures to tackle road safety problems.

This paper forms part of the road safety research and investigation works being carried out at the Accident Research Centre (ARC), BUET and is an extension of the paper by Hoque et al, (2005). It briefly summarizes the striking accident problem characteristics and priority road safety issues. The paper in particular highlights some of the advances made in regard to raise awareness and commitment in organizing road safety activities, professional capacity building and improved road user behavior. The way forward to activate and strengthen efforts towards greater road safety in Bangladesh is also discussed.

2 ACCIDENT PROBLEM CHARACTERISTICS IN BANGLADESH
According to the official statistics, there were at least 3334 fatalities and 3740 injuries in 4114 reported road accidents in 2003. It is estimated that the actual fatalities could well be 10000-12000 each year. The statistics revealed that Bangladesh has one of the highest fatality rates in road accidents. About 70 percent of road accident fatalities occurred in rural areas including rural sections of national highways. The following are the striking accident problem characteristics in Bangladesh as revealed from the accident research studies.

- Pedestrians-The Most Vulnerable Road User Group: In Bangladesh, with a low level of motorization (around six, registered vehicles including motorcycle), the role of walk mode is quite significant. Up to 62 percent of urban road accident deaths are pedestrians alone and in Dhaka city they represented nearly 70 percent. Pedestrians need protection in the form of facilities by ensuring their legitimacy, safety and convenience.
- Predominant Accident Types: Accident type analysis showed ‘hit pedestrian’ as the dominant accident type both in urban and rural areas, 45 percent involvement in fatal accidents. Other common accident types are: rear end collision (16.5%), head on collision (13.2%) and overturning (9.3%). These four accident types account for nearly 85 percent of the fatal accidents.
- Accidents on National Highways: Of the total reported accidents nearly 37 percent occurred on national highways. Almost 30 percent of total accidents on national highways are occurring only in 4 percent of total kilometrage. Hazards associated with roads and roadsides were particularly predominant. Studies are underway at the Accident Research Centre for identification and treatments of hazardous road locations using standard definitions, criteria and methods together with field observations so that cost effective countermeasures particularly the low cost countermeasures can be devised for highway safety improvements.
- Nature of Accident Occurrence: The distribution of accidents occurrence on road network was characterized as ‘clustering’ at few sites, demonstrating that accidents are amenable to site specific treatments through wide spread implementation of cost-effective countermeasures, low-cost road environmental improvements in particular.
- Over Involvement of Trucks and Buses: Studies of road accidents revealed that heavy vehicles such as trucks and buses including minibuses are major contributors to road accidents. This group of vehicles is particularly over involved in pedestrian accidents accounting for about 79 percent (trucks 37%, buses 20% and minibuses 22%).
- Involvement of Children in Road Accidents: Nationwide road accidents statistics in Bangladesh revealed a serious threat to the children. The incidence of overall child involvement in road accident fatalities in Bangladesh is found to be very
high, accounting for about 22 percent. This involvement of children less than 15 years of age in road accident fatalities is much higher than those in other developing countries.

- **Accidents in Dhaka Metropolitan City:** Nearly 22 percent of all reported accidents in Bangladesh occurred in Dhaka Metropolitan City. Large proportions of road accidents are concentrated on the main street network with many locations identified as “blackspots” which are amenable to site specific treatments. Nearly 52 percent of all accidents occurred at only 9 percent (18 intersections) of the total 200 intersections where at least one accident occurred during 2001-2003. The most predominant accident types are hit pedestrian, rear end collision, side swipe and head on collision which accounted for around 86 percent of metropolitan accident profile. Pedestrians account for 72 percent of all fatalities.

- **Socio-economic Burden of Accidents:** Together with the social impact in terms of pain, grief and suffering, there is a serious economic burden. Overseas research has shown that countries lose the most economically active years from road accident victims, and approximately 70 percent of the ‘years of life’ lost due to accidents are ‘working years’. Road accidents affect the poor disproportionately. People of age 15–44 years account for more than half of all road traffic deaths, and 73 percent of the people killed are male. People of that age are in their most productive earning years, so their families suffer financially when they are killed or disabled.

- **Defective and Road Unworthy Motor Vehicles:** Presence of defective and road unworthy motor vehicles on road poses a threat to safety of road traffic. The most common defects of vehicles in Bangladesh appear to be worn out tires, loose wheels, overloaded axle, faulty brake and indicator lighting system etc. There is an urgent need to undertake immediate safety initiatives before the situation worsens with increasing motorization and high standard of roads.

- **Accident Factors:** The principal contributing factors of accidents are adverse road and roadside environment, poor design of junctions and road sections, excessive speeding, overloading, dangerous overtaking, reckless driving, carelessness of road users, failure to obey mandatory traffic regulations, variety of vehicle characteristics and defects in vehicles and conflicting use of roads. Others include a low level of awareness of the safety problems, inadequate and unsatisfactory education, safety rules and regulations and traffic law enforcement and sanctions.

- **Drivers Incompetency:** Incompetent drivers and driving with open and widespread use of fake licenses appear to be a major concern to safety on roads in Bangladesh. Strict licensing requirement is critically important. Effective driver testing, good control and registration of driving schools are priority requirements.

- **Underreporting of Accidents:** The widespread underreporting and incomplete collection of specific details of accident data are a major problem. These restrict proper accident analysis to be carried out towards improving and monitoring road safety. The seriousness of data constraints are particularly highlighted in the recent government’s initiatives and some measures like consistent reporting and recording of accidents using standard accident report forms, regular updating of accident database, personnel training, improved understanding of the role of road environment and other contributing factors are suggested for improving data reliability and adequacy. It is important and desirable to explore the supplementary data sources viz. hospital and insurance data records to assess the degree of underreporting and extract other relevant information.
3 SOME ROAD SAFETY PRIORITIES IN BANGLADESH

As outlined in the preceding sections, the analysis of available road safety data has identified various locational, environmental and behavioral factors that cause road accidents, the road user groups involved and the vehicles and accident types. It is possible to significantly reduce the number of road accidents and casualties by implementing an effective and coordinated safety policy and actions which require significant improvements in the relevant sectors viz. better enforcement, better roads, enhanced vehicle safety standards and improved public education programs. Indeed safety will come from improving the system– the road way, vehicles, and road users– but it must start with political will (Rosenberg, 2004). In the developed nations, proven methods such as enforcement of laws regarding driving under the influence of alcohol or drugs, reducing speed limits, and requiring mandatory use of seat belts and other restraints have shown significant reduction in traffic fatalities. Improved road design and road environment, safer vehicle design, and road safety standards are also strategies that successfully address traffic safety.

In view of the existing problem characteristics and in the absence of any systematic approach being taken, there is specific need and scope for road safety improvements aimed at correcting the most common deficiencies in relevant areas viz. the roads, the vehicles and the road users. There is a need for identification of accident prevention priorities setting realistic problem specific goals and targets. The problem-specific targets (e.g. reduction of pedestrian deaths from pedestrian walking with traffic) are far more important than macro targets (e.g. fatalities per 10,000 registered motor vehicles). Countermeasures must also be implemented by the systematic understanding and investigation of the accident problems with the use of correct procedures. It is argued that gains in the future road safety strategies will tend to come from the application of correct approaches to well defined problems. To these ends different categories of road users and accident types should therefore be explicitly considered as there are specific needs and problems peculiar to each category that can and should be adequately taken into consideration in the road safety solution strategies. Road safety priorities and issues with the greatest potential to reduce road trauma have been identified in order to assist concerned agencies to take pragmatic measures. Some of the road safety priority issues that should be addressed with due urgency includes the following:

- **Reducing and Control Speeding:** excessive and inappropriate travel speeds are universally acknowledged as having the most detrimental effect on road safety. Reducing speed is probably the most powerful instrument to reduce road trauma, and is regarded as a very cost effective measure. Thus the most effective and critical measure which should be adopted is to reduce and control speeds. Police enforcement is considered to be the most effective way to reduce the incidence of speeding and other speeding related offences viz. unsafe behaviour.

- **Promote pedestrian safety as a priority issue with emphasis on safety of children on roads as pedestrian fatalities are particularly high in Bangladesh.** It is very important to provide physically separated spaces for pedestrians both in the urban and the rural areas to minimize their conflicts particularly with heavy vehicles viz. trucks and buses.
• Treatment of known Hazardous Road Locations (Blackspots and Blacksites), as such treatments are highly cost-effective. Regardless of other factors, improvements to the road system e.g. building of freeways and duplicated highways as well as road safety auditing have long term safety benefits.

• Introduction of the road safety audit process into the road planning, design and construction processes.

• Addressing the issue of over involvement of buses, minibuses and trucks in road traffic accidents and casualties.

• Prevention and reduction of dominant accident types and their severities that contribute to the high incidence of traffic fatalities and injuries (viz. hit pedestrian, head-on collision, run-off the road and out of control type accidents).

• Traffic law enforcement is a critical component in reducing accidents and road trauma. Therefore, intensified and effective high profile police enforcement should be promoted to deter unsafe behaviours and violations using both actual and perceived enforcement strategies.

• Promote safety conscious behaviour of road users, heavy vehicle drivers in particular through a focused approach including strengthening effective motivational program, sanctions and licensing requirements.

• Intensifying road safety awareness and publicity campaigns including pragmatic measures to improve and rectify road user behaviors through public motivational programs.

• Developing and implementing community based road safety programs frequently.

• Road safety education, especially for children is an effective tool for better road users’ behaviour on roads. This program coupled with public education program should be introduced. Teaching safety skills including practical road safety training to children can provide lifelong benefits to society.

• Ensure vehicle standards and fitness requirements for roadworthiness as well as crash worthiness by strengthening technical inspection system for checking and testing of vehicles.

• Compulsion in the mandatory use of seatbelts by both motor vehicles operators and car occupants including appropriate child restraints as well as compulsory use of helmets for motorcyclists and bicyclist.

• Promote initiatives to increase people’s use of public transports viz. buses and trains as they are much safer than other modes of travel viz. cars, motorcycles, non-formal paratransits.

• The time between injury and initial stabilization is the single most important factor in patient survival. Thus prompt emergency assistance and efficient trauma care management are clearly important in minimizing the road accident deaths and therefore should be introduced.
• The ability to understand accident problems and deliver effective road safety countermeasures is seriously limited by the lack of accurate and comprehensive data on accidents. The widespread underreporting and incomplete collection of specific details of accident data are a major problem. The government will be required to strengthen and co-ordinate accident and casualty data collection system (police, hospitals and insurance data) involving different agencies and research organizations.

• Improved and innovative solutions including roadside hazards management and the application of Intelligent Transport System (ITS) are vital to improve road safety.

• Research is vital to understand and tackle accident problems and is an important tool to evaluate and monitor trends and programs on road safety. Detailed scientific analysis of accidents and casualty data is crucial to develop and undertake effective countermeasures to improve the current road safety scenario.

• Secure legitimate and adequate funding to support road safety initiatives including research, training and road safety promotional activities.

• Strengthening institutional and professional capacity of all the concerned agencies and stakeholders for successful implementation of road safety measures and programs by assigning specific individual duties, roles and responsibilities and through exposure to better road safety practices. It is the effectiveness of implementation that matters most.

However, the long term solution to road accident problems particularly in rural areas is to provide a higher quality road system with increased length of divided highways, which have a better safety record than undivided highways. The safety of the vulnerable road users must also be sufficiently catered for in the road safety engineering strategies and principles. Vulnerable road users are much more susceptible to accidents when vehicle speeds are high and can even suffer fatal injuries in accidents with motor vehicles at moderate speeds. Thus the most critical and effective measure which perhaps should be immediately adopted is to reduce speeds particularly in urban areas. This measure alone will greatly reduce the overall number of road deaths as shown by experience all over the world (the number of fatalities was reduced by 32 percent in urban areas after speed limits of 50 km/h were enacted and strictly enforced in Hungary, Silcock & TRL, 1996). A necessary prerequisite to the development of such cost-effective solutions to the accident problems is of course an improved understanding of the accident problem.

4 SOME RECENT ADVANCES IN ROAD SAFETY
As indicated earlier, the developed countries have been successful in reducing both the number and the severity of road accidents and injuries through prioritized investments focusing on technical solutions as well as improvement in behavioral and organizational measures. There is no doubt that the future improvement of road safety in Bangladesh (and other countries) requires implementation of wide-ranging policies regarding people, vehicles, roads and new technology. We need to develop a comprehensive and consistent approach to ensure that the society and the economy treat road safety and mobility with equal importance; road users exhibit behavior that is in keeping with responsible and respectful road discipline; that all vehicles on road are safe and roadworthy from a technical standpoints; that infrastructure is designed, maintained and used in such a way as to ensure safety to its users and lastly, that the victims be promptly rescued and rehabilitated. We need to set the specific goals and objectives making road safety as a policy priority at the central level.

These goals can be achieved through, among other things, safer design, technology, training, education, a policy of monitoring, enforcement and effective sanctions, incentive schemes and many other measures as well as through cooperation and coordination at the local and international levels to develop experience-sharing activities and accumulation of
knowledge. In view of these, some recent advances of road safety activities are briefly summarized below.

4.1 National Road Safety Strategic Action Plan
The National Road Safety Council (NRSC) of Bangladesh formulated an updated “National Road Safety Strategic Action Plan 2005-2007” which provides an important opportunity for improving safety in a comprehensive way and makes an effort to approach the issue holistically. The action plan, with the actions in nine sectors are further classified into several sub-sectors. Actions were separately specified for each lead agency. The concept of multiple lead-agencies being responsible for one action is untenable and therefore dropped. Lead agents must contribute to the specification of outputs. In this manner, the outputs will be consistent with the lead agent’s works program, budget provisions and technical resources, and lead agents are more likely to take ownership of outputs they specify. A vision and goal for road safety improvement was stated in the plan.

- The vision- fifty percent reduction in the annual number of fatal road accidents within the next fifteen years.
- The goal- ten percent reduction in the annual number of road accident fatalities by the end of the year 2007 (NRSC 2005).

4.2 Accident Research Centre (ARC) and Its Role
Road safety research provides the framework for making effective policy decisions and for cost-effective investment in road safety. In response to the growing accident problem in Bangladesh, the concerned authorities have started to realize the need for scientific study and research regarding the causes of accident and commensurate remedial measures. The highest level of commitment in this regard came from the Honorable Prime Minister to establish an independent Accident Research Centre (ARC) within the top priority programs of the government. Accordingly the ARC has been established at Bangladesh University of Engineering and Technology (BUET) in 2002 to carry out scientific research for clear understanding of the road safety problems and ascertaining the underlying causative factors, which contribute to accidents on roads, railways and waterways. In addition, ARC is expected to play major role to develop pragmatic, cost-effective scientific solutions and bring about significant improvements in the capability of the professionals and workers in the field of transportation to a meaningful level of expertise for accident prevention and injury control and thereby contribute to the safer road environment for all users and operators. Importantly, ARC conducts appropriate training programs and workshops to develop qualified human resources for professional capacity building and also for creating mass awareness on road safety. Collaborative external assistance and requisite resources are vital for accomplishing these requirements in Bangladesh. Training local staff and research capacity building in the above skills appears to be of utmost importance and offer significant challenges. Efforts are underway for integrating different organizations both at public and private sectors, civil societies, communities and individuals towards identifying their specific roles and responsibilities and thereby developing effective measures to tackle road safety problems. ARC is also exploring avenues for exchanging knowledge and technologies through collaboration with an extensive number of renowned overseas institutions, organizations and universities etc. at local, regional and international levels.
4.3 The International Conference on Road Safety in Developing Countries
In order to generate road safety commitment and strengthen efforts at the national level ARC organized the first ever International Conference on Road Safety in Developing Countries in Bangladesh last year with a view to strengthen global collaboration and share multi-sectoral experience on road safety in developing countries. The response was enormous from around the world. Seventy-seven scientific papers on important aspects of road safety were presented and discussed in the Conference. The Conference outcome was extremely beneficial at formulating accident prevention priorities, setting realistic problem-specific goals and targets for developing countries, Bangladesh in particular and a set of recommendations were adopted in the form of 'Dhaka Declaration'.

4.4 National Workshop on Organizational Roles and Responsibilities of Road Safety
To address the importance and integration of various organizational collaboration in solving road safety problems ARC organized a national workshop on organizational roles and responsibilities of road safety in April 2007. About 60 individuals from different government and non-government organizations of Bangladesh participated in this workshop which focused on organizational roles and responsibilities toward enhanced road safety in Bangladesh. The workshop was aimed at bringing together the representatives from different stakeholders including members from civil society, transport, and local government authorities, health/medical professionals, urban planners, police/law enforcement officers, practicing engineers, road safety advocates, researchers, NGOs, transport owners and operators, and community workers to acquaint themselves in the area of road safety accident prevention and control. The workshop combined a series of presentations and working group discussion sessions which aimed to identify and set the specific goals and objectives making road safety as a policy priority at the central level and also to strengthen national and organizational commitment and responsibilities to tackle road safety problems.

The workshop was highly beneficial in identifying and determining roles and responsibilities of the concerned organizations and agencies with the designated lead agency at the central level. Some important aspects addressed in the workshop are:

- Definition of responsibility
- Assigning the task
- Setting up a permanent group
- Planning and assigning adequate technical and financial task and
- Evaluation of the outcome of actions.
4.5 National Workshop cum Training Course on Road Safety Audit

Road safety audit is one of the newest and most effective tools being used throughout the engineering profession to ensure that safety principles are built into the design, construction and maintenance of the highways as a means of accident prevention. To introduce the concept, importance and potentials of systematic implementation of road safety audit process in promoting greater road safety in developing countries, like Bangladesh, a National Workshop cum Training Course was organized by ARC in March 2005. Over fifty participants from nearly eighteen organizations participated in the Workshop.

The nature of the road accident problems and the deficiencies in road and traffic engineering devices attributable to accidents were discussed by demonstrating how safety improvements could be achieved resulting from proper safety checks or audits. The workshop was facilitated by a noted overseas expert Mr. Philip Jordan, Principal Road Safety Engineer, Vicroads, Melbourne. The course was followed by a day long field visit to a section of one of the National Highways of Bangladesh giving specific tasks for identifying hazards and remedies through audits with subsequent submission and presentation of report on the field visit as well as evaluation of the reports.

4.6 The Observance of UN First Global Road Safety Week

In pursuance of the United Nations General Assembly resolution A/60/5 on “improving global road safety”, the key global event of the First United Nations Global Road Safety Week was being hosted around the world. The Week was a historic opportunity to raise the issue of road traffic injuries to a higher level and several initiatives—local, national, regional and global—took place around the world, organized by governments, nongovernmental organizations, United Nations and other international agencies, private sector companies, foundations and others working for safer roads. The event was observed in Bangladesh in a befitting manner and made significant contribution to address road safety in a firmer way by consolidating effective and coordinated road safety initiatives at central, regional and local levels. Many sectors, stakeholders, owners and operators, international agencies and professional at all level were involved in that event. The event included many programs like policy discussion meetings with different stakeholders, updating/revising the national road safety action plan, driver training programs, regional workshops, rallies, discussion at school and first aid demonstration, communication material development, production and distribution, promotion of helmet and seat-belt use through media campaign, essay and painting competition on road safety, press conference, media publication etc.
4.7 Road Safety Research and Investigations

Road safety research is needed for greater understanding of accident problem and to clarify prevailing situations in terms of priorities and problem areas, as research provides the framework of knowledge against which policy decisions can be made and countermeasures devised. ARC conducts road safety research and investigation, which are useful in documenting the accident problem characteristics and would provide the means to develop and evaluate effective countermeasures. Some major areas of ARC’s research and investigation include (ARC 2005):

- **Hazardous Road Location (HRL) Program:** Hazardous Road Locations have already been identified in all National Highways and further analysis is still progressing for recommending corrective measures to reduce road accidents and injuries.
- **Investigation of Major Fatal Accidents and Accidents during Festivals:** ARC has a program in documenting information on major fatal accidents as well as accidents during festivals. Data are being collected from such secondary sources as newspapers in an effort to strengthen and enrich existing accidents database.
- **Metropolitan Street Accidents:** The study is aimed at identifying the safety problems existing in the metropolitan streets analyzing road traffic accident data. Recently investigations have been carried at different high accident locations in metropolitan Dhaka. It is expected that the results and subsequent findings of the analysis would help in developing urban safety management strategies.
- **Involvement of Pedestrians and Children in Road Traffic Accidents:** The study highlights the scale and characteristics of involvement of children in road traffic accidents in Bangladesh and is expected to document effective and pragmatic actions for improving the child road safety situation.
- **Understanding Heavy Vehicle Drivers’ Behavior:** This study evaluates the involvement of heavy vehicles and their drivers in road accidents as well as their profiles and behavioral habits and attitudes towards road safety. A comprehensive questionnaire survey on heavy vehicle drivers had been completed in an effort to understand the physio-psychological and personal characteristics of heavy vehicle drivers. The survey attempted in particular, to ascertain their behavioral habits and attitudes towards road safety as well as to determine the prevailing level of their understanding and awareness towards road safety. The need for drivers’ education to improve their performance in safe driving have been emphasized.

4.8 Road Safety Training and Awareness Programs

ARC has already developed and organized a number of training programs for the professionals, students, heavy vehicle drivers and transport owners to strengthen profession capacity building in road safety management and to promote safety conscious behavior.

- **Training for Professionals:** Nine national workshops, training programs and seminars among almost four hundred and fifty professionals and practitioners from all leading agencies of the government, the personnel from different disciplines such as top level transport policy decision-makers, traffic engineers, transport professionals, practicing engineers, law enforcement officials, medical professionals, research specialists, psychologists, representatives from NGOs and international agencies, academicians and road safety advocators in the private sectors, community workers were arranged in ARC.
• **Training for Students:** Four training programs and seminars among almost 2000 students of Bangladesh National Cadet Core (BNCC) in different districts of the country were organized by ARC to generate awareness and practices among the students about the general road safety issues. Road safety training programs were also organized for the university students to create road safety awareness and skill development in tackling road safety.

• **Training for Heavy Vehicle Drivers:** Studies on road accidents revealed that in Bangladesh heavy vehicles such as trucks, buses and minibuses are major contributors to road accidents particularly fatalities involving vulnerable road users, pedestrians in particular. The need for drivers’ education to improve their performance in safe driving is therefore fundamental requirement.

So far, ten drivers’ training programs have been conducted among about 1000 heavy vehicle drivers during last three year of period with the theme of road safety and good driving practices to reinforce their knowledge and experience they possess in the field of road safety.

5 **THE WAY FORWARD**

Improvement of road safety is a multi-disciplinary task and does not occur by itself. Road accidents are problems that cover many sectors (social, health and economic), which can only be tackled effectively if the state takes a leading role and responsibility with due commitment. One fundamental step to be taken by the government is to create an organization dedicated to initiating and coordinating road safety activities. Realistic fatality and casualty reduction targets need to be established with the availability of adequate technical and financial resources to bring about the required improvements. The advances noted in the preceding sections should be further streamlined by activating lead agencies with a mandate of implementing very specific and explicit actions and strategies. Essentially this would require increased consideration of development and implementation of strategic action plans. It is also important that such actions should fundamentally invoke the growing shift in road safety paradigm which places greater emphasis on the system improvement encompassing a comprehensive approach to address the human, vehicle and environmental factors at each phase of a crash; pre-crash, during the crash and after the crash. (See Figure 1)

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**Figure 1: The Needed Paradigm Shift in Road Safety.** (Tay, 2007)

6 **CONCLUDING REMARKS**

Because road accidents are a national problem, achieving safety on our roads depends greatly on the commitment and efforts of the government, communities, organizations, families and
individuals throughout Bangladesh. There is a real need that our efforts should be strengthened with due regards to the following:

i. Making road safety a policy priority;
ii. Designating a single central agency with the authority to address road safety;
iii. Activating lead agencies in relevant sectors with appropriate authority and resource availability;
iv. Establishment of a reliable data set that enables to define the problems and implement effective measures;
v. Seeking solutions of accident problems through correct procedures, standards, safety conscious planning and design and good practices;
vi. Undertaking a comprehensive approach to address the human, vehicle and environmental factors at each phase of a crash; pre-crash, during the crash and after the crash;

vii. Improvement of the roadway system with special consideration of promoting pedestrian safety;
viii. Bringing about changes in attitudes of drivers towards safe operations through strict enforcement and sanctions;
ix. Providing appropriate training and education on accident prevention, injury control and safety technology;
x. Making available requisite funding and resources for safety improvements;
xi. Transferring and adapting best practices and interventions through local and international collaboration focused on all aspects of road safety: the behavior of drivers, riders, passengers and pedestrians; vehicle safety; roadway environment; and emergency medical services;
xii. Foster safety research excellence through exchange and linkage with institutions at regional and international levels.

REFERENCES
Accident Research Centre (ARC) (2005), Newsletter, January 2005.